CLAIMS

What is claimed is:

1. A printed circuit board, comprising:
a substrate layer; and
a solid, planar optical wave-guide laminated onto the substrate layer.

2. The printed circuit board of claim 1, further comprising at least one of a laminating material or a cladding material coupled to the wave-guide.

3. The printed circuit board of claim 2, further comprising at least one additional layer coupled to the laminating material or the cladding material.

4. The printed circuit board of claim 3, wherein the at least one additional layer comprises at least one of a metal, a metal alloy, a composite material, a polymer, a monomer, an organic compound, an inorganic compound and an organometallic compound.

5. The printed circuit board of claim 1, wherein the substrate is a wafer.

6. The printed circuit board of claim 1, wherein the substrate comprises at least two layers of materials.

7. The printed circuit board of claim 6, wherein the at least two materials comprises silica wafers, dielectric materials, adhesive materials, resins, metals, metal alloys, and composite materials.

8. The printed circuit board of claim 1, wherein the wave-guide comprises a silicon-based material.

9. The printed circuit board of claim 1, wherein the wave-guide is partially etched at a 45° etched angle.

10. The printed circuit board of claim 9, wherein the 45° etched angle of the wave-guide is coated with a mirroring compound or a reflective compound.

11. An electronic component comprising the printed circuit board of claim 1.

12. An electronic component comprising the printed circuit board of claim 2.

13. An electronic component comprising the printed circuit board of claim 3.

14. A method for producing an electronic component, comprising:
providing a substrate layer;

providing a solid, substantially planar optical wave-guide; and

laminating the solid, substantially planar optical wave-guide onto the substrate layer.

15. The method of claim 14, wherein at least one of a laminating material or a cladding material is coupled to the wave-guide.

16. The method of claim 15, wherein at least one of an additional layer is coupled to the laminating material or the cladding material.

17. The method of claim 14, wherein providing the optical wave-guide comprises etching or molding a silicon-based material to produce the wave-guide.

18. The method of claim 14, wherein the substrate comprises at least two layers of materials.

19. The method of claim 18, wherein the at least two materials comprises silica wafers, dielectric materials, adhesive materials, resins, metals, metal alloys, and composite materials.

20. The method of claim 14, wherein the wave-guide is a silicon-based material.

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